

REMARKS

Claims 1, 4-25 and 27-32 are pending in the application. Claim 1 is amended above to include the feature of claim 2. Claims 2-3 and 26 are cancelled from the application above without prejudice. Claim 10 is amended above to correct a typographical error. Claim 13 is amended to correct its dependency. Claims 22-23 are amended above to make them dependent upon claim 1. New claim 32 is added to the application in this Reply. No new matter has been added to the application by way of these specification and claim amendments.

I. THE CLAIM 10 OBJECTION

The examiner objected to claim 10 for including typographical error.

The examiner's objection is overcome by deleting the superfluous term "claim" from claim 10.

II. THE SECTION 112, 2nd PARAGRAPH REJECTION OF CLAIM 13

The examiner objected to claim 13 for lacking antecedent basis for the term "the particles".

The examiner's objection is overcome by amending claim 13 to depend upon claim 12.

III. THE COLLINS PRIOR ART REJECTIONS

The examiner rejected claims 1, 4-5, 19-21 and 27-28 for being anticipated by Collins (USP 6,371,219). The examiner further rejected claims 2-3, 6-18, 23-26 and 29-31 for being obvious over Collins.

A. The Anticipation Rejection is Moot

Independent claim 1 is amended above to include the feature of dependent claim 2. Therefore, the examiner's anticipation rejection is rendered moot by the applicant's amendment to claim 1 because all rejected claims depend directly or indirectly upon claim 1.

B. The Pending Claims are Non-Obvious

Claim 1 is amended above to define a component for a shaped charge perforator that comprises a plastic composite with non-explosive fillers provided in different proportions at different component portions. The presently claimed invention provides the advantage of being

able to tune the composition of the component, by employing pairs of distinct filler-to-mix ratios in their respective portions of the perforator to achieve different perforating characteristics such as, for example, providing perforating liners with different penetration capabilities.

All pending claims are now clearly non-obvious and patentable over the cited prior art at least in view of this claim 1 amendment. As an initial matter, the examiner has not provided documentary support – as is required where the elements are not unquestionably well known - for taking official notice that certain elements of the claimed invention are were allegedly readily apparent to one of ordinary skill in the art at the time of the invention. Secondly, the examiner has not established a *prima facie* case of obviousness because the prior art does not disclose or suggest every element of the presently claimed invention. Finally, the examiner has not provided any basis for rejecting claims 29-31 and at minimum the examiner's rejection is incomplete.

A. The Examiner's Reliance Upon Common Knowledge In the Art to Reject the Claims is Legally Flawed

The examiner's rejection of claims 2-3, 10-11, 17-18, 22-26 and 29-31 for obviousness acknowledges that at least nine (9) different claim elements are not found in Collins. Instead of identifying one or more references with the missing Collins teaching(s), the examiner relies solely upon taking official notice that the plethora of claim elements missing from Collins were common knowledge in the art at the time of the invention. The examiner's common knowledge positions are legally flawed because (1) they are devoid of any evidentiary support; and (2) they are not "unquestionably" well-known elements. Moreover, the examiner's unsupported common knowledge positions are directed to just about every claim element. As such, the common knowledge positions form the primary basis for the examiner's claim rejection instead of just filling gaps in the obviousness rejection. The examiner's obviousness rejections must, therefore be withdrawn for at least these reasons.

"It is never appropriate to rely solely on common knowledge in the art without evidentiary support in the record, as the principal evidence upon which a rejection [is] based". See MPEP § 2144.03(B) citing *in Re Zerko* 258 F.3d 1379, 1385, 59 USPQ2d 1693, 1697 (Fed. Cir. 2001). Indeed, the MPEP indicates that official notice may be relied upon to reject claims elements without documentary support only in rare circumstances where the elements/facts asserted are well-known. *i.e.*, "are capable of instant and unquestionable demonstration of being well-known". MPEP 2144.03(A) citing *In re Ahlert*, 424 F.2d 1088, 1091, 165 USPQ2d 418,

420 (CCPA 1970). Absent documentary evidence, the elements alleged to be obvious based upon official notice must be both notorious in character and should only “fill the gaps” in the examiners rejection. *See in Re Zerko* 258 F.3d at 1385, USPQ 2d at 1967.

The examiner failed in the obviousness rejection to provide evidentiary support for his findings that certain claim elements were of common knowledge in the art at the time of the invention. Therefore, the only way the rejection can be legally supportable is if each of the elements must be capable of “instant and unquestionable demonstration of being well known”. However, none of the claim elements that the examiner rejected based upon official notice of common knowledge in art are elements that one of ordinary skill in the art at the time of this invention would instantly and unquestionably recognize as being well-known. Indeed, seven of the elements the examiner alleges were common knowledge are recited below.

Regarding claims 2, 3, 10, 11, 17, 18, 22, 23, 24, 25, 26, 29, 30, 31, Collins et al. do not explicitly disclose **1)** first and second portions of the component comprising different ratios of filler to matrix; **2)** the degree of homogeneity of the distribution of the filler throughout the matrix; or the degree of non-uniformity in the distribution of the filler in the matrix of the liner; **3)** that the filler volume is in the range of 45% to 85% or 45% to 65% of the combined volume of filler and matrix ,04); **4)** the density of the filler and the ratio of the filler density to matrix density being substantially zero; **5)** a method for making the component under vacuum; **6)** the liner being of non-uniform thickness; **7)** the filler being substantially density-matched to the plastic material of the matrix.

The examiner takes official notice that the claimed elements and features **1) - 7)** above comprise only elements and features of a shaped charge case and liner that were well known in the art at the time of invention and were well within the skill level of one of ordinary skill in the art at the time that the invention was made, the selection of

A review of the elements makes it abundantly clear that none of the claimed features alleged to be well-known are capable of instant and unquestionable demonstration as being well-known.

Indeed, the primary Collins reference recited by the examiner fails to teach any of the plethora of claim elements alleged by the examiner to be well-known in the prior art at the time of the invention. The fact that Collins does not disclose any of the alleged well-known features provides strong evidence that the elements the examiner's common knowledge elements cannot be sustained without evidentiary support.

In particular, Collins does not disclose any shape charge perforated component that has a first and second portion that comprises different ratios of filler to matrix. Moreover, the examiner has not provided any technical line of reasoning why this particular feature would be common knowledge. The applicants, therefore, respectfully ask request the examiner to provide evidentiary support for its position that the elements recited as being within the common knowledge of one of ordinary skill in the art are indeed well-known. Absent such a showing, all pending claims are believed to be non-obvious and patentable over the recited prior art.

B. There Is No *Prima Facie* Case Of Obviousness

All pending claims are non-obvious because the cited prior art does not disclose a component for a shape charge perforator that includes a plastic composite with non-explosive fillers provided in different ratios in different portions of the component. As noted above, the Applicant maintains that this feature of the pending claims was not common knowledge to one of ordinary skill in the art at the time of the invention. Moreover, the Collins reference does not disclose this feature. Instead, Collins discloses that a ratio of ingredients may be included in a similar component but Collins does not disclose or suggest that the ingredients may be differentially distributed within the component. Therefore, there is no disclosure in Collins of a perforated component that includes a polymer matrix that has a first portion and a second portion where the first and second portion comprise different ratios of filler to matrix.

C. The Examiner's Rejection Ignores Claims 29-31.

The examiner lumped claims 29-31 into the Collins obviousness rejection. However, the examiner has not provided any explanation for the obviousness rejection as it applies to claims 29-31. For example, the examiner has not identified where a liner comprising a plastics material matrix having at least one non-explosive filler embedded therein of claims 29-31 is found in the prior art. For at least this reason, claims 29-31 must be allowed or the Office Action reissued.

CONCLUSION

Pending claims 1, 4-25 and 27-32 are believed to be patentable for the reasons recited above. Favorable reconsideration and allowance of all pending application claims is, therefore, courteously solicited.

McDonnell Boehnen Hulbert & Berghoff LLP

Date: January 6, 2009

By: /A. Blair Hughes/
A. Blair Hughes
Reg. No. 32,901
312-913-2123